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ABSTRACT

This is the summary of a larger paper describing the evolution of a mediated elementary accounting course at the University of Wisconsin-Stout. The course was initially developed as a 25 slide-tape lesson course which included 950 visuals and approximately 25 hours of instruction. One hundred students per semester took the course in the following manner. Four copies of the account series were on closed reserve at the library circulation desk. Students checked out each lesson, viewed it at stations for accounting students, and returned it to the circulation desk. Within several years, three problem areas became evident. First, equipment failure constantly occurred in the form of warped slide mounts, jammed slides, burnt out bulbs, and jammed audio tapes. Second, human frailties resulted in rearranged or borrowed slides and equipment malfunctions. Third, increased enrollments compounded already existing management problems of equipment shortages, limited supplies of slide-tape sets, and limited staff time to monitor and repair equipment. Finding a solution to these problems led to the use of 4 x 6 color microfiche, each containing 98 images, and the use of portable and stationary microfiche readers. The advantages of the use of color microfiche included: (1) fewer equipment problems under heavy use, (2) fewer student problems, (3) reduced management problems, (4) increased flexibility in student use of study materials, (5) lower software costs, (6) greater compatibility of course materials with existing library microfiche collections, and (7) a greater compactness in the storage and use of materials. (DAG)

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COLOR MICROFICHE AS A REPLACEMENT FOR SLIDES*

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*Summary of a paper delivered at the National Micrographics Association mid-year meeting Denver, Colorado, October, 1976.

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Background

In 1971, the University of Wisconsin - Stout accounting department, in cooperation with Instructional Technology Services, developed a series of 25 slide-tape lessons for a course in elementary accounting. The series was designed as a replacement for the lecture portion of the course. The total package included over 950 visuals and provided approximately 25 hours of instruction. The 100 students per semester who took the course were required to complete additional work from a text and workbook.

The slide-tape portion of the course was utilized in the following manner. Four copies of the accounting series were placed on closed reserve at the library circulation desk. The students checked out each lesson, viewed it in stations set up for the accounting students, then returned it to the circulation desk. The course instructor was present in the library during certain hours of the day to assist students with problems.

Problems

Within several years, the elementary accounting course began to develop serious problems. A large number of departments added it to their required courses. This, along with an increasing student body, quadrupled the number of students taking the course each semester. Discussions with students, faculty, and library staff identified three areas of concern: (1)Equipment failures, (2)human frailties and (3)management problems.

In terms of equipment failures, four problems were most frequently cited: (1)slide mounts warped and jammed; (2)jammed slides were destroyed; (3)bulbs burnt out and (4)tape jams occured when using combination slide-tape units.

Human frailties frequently compounded the equipment failures. Students had a tendency to rearrange or borrow slides. In attempting to clear slide

jams, trays were sometimes dropped. Students had problems using equipment particularly when malfunctions occured.

Increasing enrollment in the course also compounded managment problems. A severe shortage of equipment, particularly slide projectors, developed. The limited supply of slide-tape sets caused a serious problem at the beginning of each semester when everyone was working on the same lesson. The lessons had to be placed on closed reserve so their contents could be monitored. This used up approximately 28 linear feet of shelf space in an already conjested area. Staff time required to service the course became a major problem. Each lesson had to be checked out and in. It had to be inspected for dammage each time it was returned. In addition, staff had to be trained to change bulbs, clear jammed slides and tapes, perform minor maintenance and most importantly, tactfully handle complaints from students. Although the program was designed to make more effective use of staff time, in fact, it simply transferred the workload from the accounting department to the library.

In the fall of 1974 a taskforce was established to find a solution to the problems. Several alternatives were explored including increasing the number of slide-tape sets, use of filmstrips and the use of color microfiche. Color microfiche was chosen for reasons that will be noted later.

Once the decision had been made, the master set of slides was sent to a commercial service bureau where they were transfered to 4 X 6 microfiche. Each fiche contains an eye readable color coded index at the top and up to 98 images arranged in 7 rows of 14 columns. In several cases multiple lessons were placed on a single microfiche. The entire 25 lesson set was transfered to 12 microfiche and 15 cassette tapes. Each microfiche-tape set was then packaged and made available for student use.

Copies of the entire series were placed on open reserve in the library.

These could be used in the building or checked out. Copies were also placed in each of the student dormitories and the accounting laboratory.

Delivery System

The question of when and how the microfiche will be used needs to be addressed in the early planning stages. An effective delivery system is the key to a successful color microfiche program. There are four basic options available for delivering microfiche: (1)stationary readers which are usually located in the Learning Resource Center or Sattlite Centers; (2)portable readers which can be made available for loan from the Learning Resource Center or purchased; (3)hand held viewers which can be made available for loan or purchase and (4)microfiche projectors which are useful for small group discussion sessions.

Stout utilizes several options in an effort to provide optimum convience and flexability to the students. A large number of stationary readers are available in the library. In addition, each of the dormitories and the accounting laboratory have been supplied with readers and tape cassette units, Portable readers and tape cassette units are available for check-out at the library circulation desk for use in or outside the library. A portable microfiche reader/projector is also available for student use.

Evaluation

At the end of the first semester, students were asked to evaluate color microfiche as compared to slide-tape. The survey revealed several points: (1)The availability of the software and hardware was an important factor in student attitudes; (2)Students had fewer problems with the microfiche-tape lessons and equipment; (3)Most students prefered microfiche-tape over the slide-tape program.

The selected comments noted below are a reflection of the attitude many students have toward microfiche.

"Microfiche was readily available off-the-shelf with no checkout."

"It's quieter and easier to skip back over material."

"More convient and much handier to view in dorms."

"No equipment problems - No slides out of order or stuck!"

"Microfiche is much more compact and easier to handle. When library microfiche readers were in use it was easy to check one out and take it back to my room."

"I could do the work at home. I'm carrying 21 credits plus working full-time. I'm also married with one child and commute daily. My situation doesn't allow for much library time."

Advantage of Color Microfiche

An analysis of the color microfiche program identified the following advantages of the new system over the old.

1. Equipment problems are significantly reduced. Microfiche don't jam or burn up. Bulbs last longer under heavy use and are relatively inexpensive.
2. Students have fewer problems with the microfiche equipment and software.
3. Management problems are significantly reduced. The microfiche packages reduce space requirements by 1/7. They can be placed on open reserve. Equipment malfunctions are eliminated. Requirements on staff time, once a significant burden are virtually eliminated.
4. Students are provided with greater flexability in choosing when and where they can study. They are no longer restricted to a single location or confined to the hours the library is open. They may choose the time and place that are best suited to their own needs.
5. Microfiche is more expendable because of reduced production costs. Cost savings for software are dependent upon a number of variables. In the accounting series fifty copies were produced resulting in a cost saving of

85 percent over a comparable number of slide copies.

6. The use of microfiche provides access to limited learning resources that heretofore had been available on a restricted basis.
7. The use of color microfiche is compatable with an existing emphasis at Stout, on the use of microfiche. The library currently has a collection of over 400,000 microfiche. There is an active use of computer-output-microfiche to produce media catalogs. Students are also provided with free duplication of black and white microfiche. This has significance in terms of the availability of equipment and student familiarity with and acceptance of microfiche.
8. It frees up the instructor to provide more individulized assistance while not shifting the burden to the library staff.
9. Microfiche can be retained by the student as a permenent resource.
10. Its compactness and the availability of portable readers make it extremely useful in extended education programs, a fact that many business firms have already discovered.

Conclusion

Color microfiche has been used as a teaching tool since the spring semester of 1975. Approximately 900 students each year are currently using color microfiche in the elementary accounting course. Replacement of slides with color microfiche has proved extremely successful. Additional are currently under study at the University of Wisconsin - Stout.